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Survival in a World of Probable Objects

Egon Brunswik

Perception and the Representative Design of Psychological Experiments. Berkeley: University of California Press, 1956. Pp. xii + 154. \$5.00.

Reviewed by JAMES J. GIBSON

A Professor of Psychology at Cornell University, Dr. Gibson has long been distinguished for his research and writing on visual perception. For many years he was a close colleague of Kurt Koffka's at Smith College, and before that he came under the influence of E. B. Holt at Princeton.

THE NOTION of *cues* for perception and behavior is widely used but seldom carefully examined by psychologists. Brunswik spent thirty years studying such cues, and he shows in this book the kind of psychology which can legitimately be founded on the cue-hypothesis. This is enough to make the volume an important work, but it also contains for good measure a general theory of perception, a specific theory of object-constancy, a survey of experiments on constancy, a critique of methods in perceptual research, a program for the reform of experimental method in psychology, and an effort to bridge the gap that exists between the logic of individual differences and the logic of the laboratory experiment. It is not an easy book to read, but Brunswik was not content to make it easy either by reducing the scope of his theory to a 'model' or by shirking intellectual difficulties. His style is formal and technical, but he wrote with conviction and enthusiasm.

Born in Budapest, for ten years instructor in the University of Vienna,

Brunswik was, until his death shortly before the publication of this volume, a professor at the University of California in Berkeley, a philosopher of science, a scholar in the best European tradition, and at the same time a whole-hearted convert to the ways of American psychology. His death unhappily makes us consider this volume a summing up of his views. His intention was, however, that it should be only the beginning of many new lines of thought.

Brunswik recognized that the problem of how we perceive objects, or how animals respond adaptively to objects, is fundamental to most of the other problems of psychology. On the assumption that sensory stimuli cannot specify objects but only some of their properties, the stimuli must be considered as *cues*. Perception and behavior are necessarily indirect functions of objects, for cues have only a limited validity as indicators of them. Even the most elaborate combination or cluster of sensory stimuli cannot specify an object for an animal—it can only make the object's existence highly probable. We cannot avoid the problem of determining the 'cue-value' of stimuli, but experimental evidence seems to show that cues are substitutable for one another, that they are interlocking and non-isolable and very troublesome to work with in combination. Brunswik

faced this evidence squarely and followed out its implications to the end. All who take the cue-concept for granted should do the same.

Any theory of perception must also be a theory of thing-constancy. Brunswik's pioneering work on this problem in visual perception led him to the puzzle of how responses are determined by the distal stimulus (the object) as well as by the proximal stimulus (the retinal image), and to the "dilemma of whether we 'see' the retina or the outside world". The facts of the constancy experiments point to a distal 'focusing' of perception, but since the proximal stimulus is necessarily untrustworthy, this achievement of the organism must be accounted for. There has to be correction, compensation, and stabilization. Perception is based on insufficient evidence but, surprisingly, it is generally correct. By rights, the animal should not have functional contact with the environment, and yet it does.

In his struggle with this dilemma, Brunswik never took refuge in subjectivism or the sterile theory of the private phenomenal world. He was too well aware that functional behavior demands veridical perception. Nor would he accept the Gestalt theory of a brain process which would spontaneously produce the correct object in phenomenal experience. Instead he was driven to consider the difficult

position of supposing that both the perceptual process and the environment itself are *probabilistic*, that is to say, imperfectly lawful. This is not a comfortable theory; Brunswik himself could not rest comfortably in the lap of uncertainty. Nevertheless he disciplined himself to make a virtue of what he considered a necessity.

THE perceptual system of the human observer can achieve either of two aims, the distal or the proximal. For the explanation of why it tends to achieve the object, under instructions to take a "naïve-realistic" attitude, Brunswik could make the following suggestions.

(1) The system accumulates cues to the object more or less as a lens accumulates light-rays from an object, and it brings them to a single 'focus.'

(2) The system behaves like an 'intuitive statistician': it computes the probabilities of things in a three-dimensional environment by weighting and combining the cluster of cues.

(3) The system is not wholly rational but quasi-rational: it incorporates checks and balances which sacrifice precision for the minimizing of gross error.

(4) The system is similar to homeostasis in that it achieves a stabilization of perceptions and a stereotyping of phenomenal objects.

These suggestions do not constitute a theory of perception by the usual standards of scientific theory, but Brunswik was in doubt whether such standards should be applied in psychology. Perhaps psychology must remain "geared to uncertainty," at least for the present. All Brunswik could be sure of about perception was two things. First, that configurations in the field of view indicate objects in the world with a limited degree of trustworthiness. The 'ecological validity' of such cues can only be determined experimentally. Second, that these configurations come to mediate object-perception only because they offer the organism an *opportunity* for probability learning; the percept is always a wager. Thus uncertainty enters at *two* levels, not merely one: the configuration may or may not indicate an object, and the cue may or may not be utilized at its true indicative value.

Brunswik was not a sensory physiologist. He did not consider for himself the

nature of sensory processes nor the problem of placing the dividing line between sensing and perceiving. What the bare impressions are—the raw materials for probability learning—he never attempted to say. He accepted without criticisms the usual list of cues for the third dimension, referring as they do to the perception of a single object, and he conceived of the environment as a collection of single objects rather than as an array of adjoining surfaces. If the cues for depth, so conceived, are ill-defined or circularly defined, not cognate with one another, and non-isolable, he was willing to accept this state of affairs without impatience, and to proceed as he could.

THE implications of this theoretical position for experimental method are far-reaching and even, as Brunswik understood, revolutionary. It means that a *representative* rather than a *systematic* design should be used in future experiments, and to this experimental policy he devoted a full half of his book. Believing as he did that theory and method are inseparable, he considered that he could here make a lasting contribution to psychology.

The classical way of finding the cause of an effect is to be systematic, to isolate and control single variables one at a time. But this procedure will not do in the study of perception or behavior, where cues are multiple and interactive. So, to clarify this matter, Brunswik classified all the thing-constancy experiments in which he ever had a hand, plus some others. This survey, in itself, is useful. His classification, however, is in terms of variation and covariation of dimensions. His aim is a "multidimensional psychophysics." He wanted to know how much the results of an experiment can be *generalized*. One experiment on perception, he argued, may be "ecologically normal," that is to say, representative of a whole crowd of natural instances, while another experiment may apply only at the fringe of reality (to bearded ladies, for example) and its outcome will be quite misleading for the world in general.

With this statement we might all agree but Brunswik's position went beyond. He asserted that *the experimenter has little or no basis for knowing in advance whether his experiment is representative or unrepresentative*. It might seem to him



—g. Paul Bishop

EGON BRUNSWIK

lifelike, yet prove to be not so. The experimenter's only policy is to keep on experimenting so as to sample the world adequately. He must operate, if not in darkness, at least in theoretical twilight. To state the situation of psychology so bleakly takes courage.

The experimenter can improve his chances of success by using representative design in his experiment. To do so he must first sample the environment, or habitat, of the individual he is testing. Consider Brunswik's procedure for sampling the environment in a size-constancy experiment. The experimenter follows a subject about in the course of an ordinary day's activity and asks, every few minutes, what the subject is *looking at*. The replies are recorded (along with the estimates of size). The physical size of the object is later measured (along with its distance from the subject). The distribution of sizes is taken to be a representative sample (and this can be correlated with the distribution of estimates). Now does this procedure genuinely represent the variable of size in the human habitat? A tendency for objects to be evenly *spaced* in the physical world would be missed by this sampling of the internal dimensions of single objects. The ordinary observer does not look at interspaces, although he sees them. Perhaps the regular spacing to be found in the structure of things is more important for perception than the

variability in the sizes of things. The present reviewer is convinced that the environment is geometrically lawful, not the reverse. Yet, in any case, Brunswik was correct in arguing that a sort of ecology for perception is necessary if we are ever to understand the process.

In his position Brunswik was bound to be impressed by the logic and way of thought appropriate to the study of individual differences. He admired the Anglo-American development of statistical reasoning. He came to believe that statistical procedures were not just makeshift substitutes for experimental control but the essence of psychological research and the core of psychological theory. The shift of emphasis toward probabilism would be difficult, no doubt, but necessary—so he was convinced.

THIS is, indeed, a profound and disturbing book. Brunswik realized, unlike most behaviorists, that the objects an animal can respond to are just as important for his behavior as are the responses he can make. He realized, unlike most sensory psychologists, that novel psychophysical methods are necessary—ones not confined to the narrow problems of so-called sensations. And he realized more than his contemporaries that the problems of perception, as of behavior, cannot be solved by setting up situations in the laboratory which are convenient for the experimenter but atypical for the individual. He asks us, the experimenters in psychology, to revamp our fundamental thinking and to adopt a consistent functionalism in which the organism survives—when it does—by adapting its behavior to a world of merely probable objects. It is an onerous demand. Brunswik imposed it first on his own thinking and showed us how burdensome it can be. His work is an object lesson in theoretical integrity.



There are some books which cannot be adequately reviewed for twenty or thirty years after they come out.

—JOHN MORLEY

One Kind of School Counselor

Stanley S. Marzolf

Psychological Diagnosis and Counseling in the Schools. New York: Henry Holt, 1956. Pp. xiv + 401. \$4.00.

Reviewed by DONALD E. SUPER

Dr. Super is Professor of Education at Teachers College, Columbia University, and a counselor psychologist if ever there was one. Having counseled students, he now counsels students' counselors. He is the author of Appraising Vocational Fitness. He advises CP about books on counseling.

WHEN psychologists venture into the applied fields, they encounter an array of other psychologists and near-psychologists which is sometimes reassuring, sometimes distressing, and in any case likely to be bewildering. In industry, we have cousins among the personnel managers and the engineers, as well as brothers and sisters in personnel psychology and engineering psychology; in medical settings we find psychiatrists and physiologists as well as clinical and counseling psychologists; in education we find counselors, deans, and visiting teachers as well as school psychologists. Sometimes we are glad to claim these cousins as kissing kin, sometimes we actively disown them; sometimes we are proud to recognize our own professional brothers, and sometimes we treat them as poor relations. The professions, too, have their own class systems.

This problem is both recognized and dodged by Marzolf in this generally excellent book on diagnosis and counseling in schools. His recognition of the common body of knowledge shared by all those who use psychological methods in working with individual school-children is capitalized by his publishers in advertising the book. Marzolf points out that school psychologists, guidance counselors, and school social workers need a common knowledge of psychological principles and educational aims and practices. His book is, therefore, designed to provide a broad treatment of psychological diagnosis and counseling in school settings, such as is needed by the various types of psychologists and near-psychologists working in schools.

This is an admirable objective. If school psychologists were equipped to

take over the diagnostic and counseling work done by high-school counselors, as some very few are, they would be better able to contribute to the development of psychological services in the schools and to meet individual needs. If counselors, deans, and visiting teachers were better trained in the psychological principles and techniques which they use, they would be better able to perform their work and better able to make use of the special skills of their colleagues. How well is this objective attained?

THE author's treatment of the subject reflects, inevitably, the specialized state of the field and the disappearance of the *Universalmensch*. An analysis of the contents and treatment reveals an emphasis on the work of the *school psychologist*, as conceived of by the more highly trained and broadly experienced members of that specialty and as portrayed in the report of the Thayer Conference. The school psychologist appears as an educationally oriented clinical psychologist (as contrasted with the medically oriented clinical psychologists who dominate the clinical field today), one who does preventive and alleviative work in relation to difficulties of adjustment. He is a diagnostician, a therapist, and a consultant. Such being the emphasis, what in this volume is left out or slighted?

Little is left out, insofar as outline is concerned. A fairly good scope is achieved, but parts of the picture are out of focus. In the part on treatment, the environmental approach gets 15 pages, while counseling and psychotherapy get 74; in the part on diagnosis, aptitude tests occupy 4½ pages, interest inventories 1½, and personality tests 8 pages. The supplementary reading recommended for this chapter includes the Andersons and Ferguson on personality tests, Greene *et al.* on achievement tests, Donahue *et al.* on testing students, and Freeman and E. B. Greene as general

texts, with no suggestions for specialized reading in the fields of aptitudes and interests. In other words, the *visiting teacher* and the *high-school counselor* will find little in this text that deals with their main concerns, although they will find it useful in broadening their understandings and adding to their skills.

The failure to consider matters of major concern to counselors working in high schools is revealed in two other ways: the definition of the purpose of psychological work in schools, and the discussion of the nature of the problems with which the psychologically trained school staff member (psychologist, counselor, social worker) deals.

The "overview of the counselor's work" deals with "preventing and alleviating difficulty." Little is said there about promoting growth and development. Indeed the emphasis throughout the book is on diagnosis and treatment of problems and difficulties, whether the problem be one of vocational choice, of learning to read, or of parent-child relations. The work of the psychologically trained school-staff member as leader in the development of self-understanding and in the clarification of goals for all students is slighted. That this is a text on diagnosis and counseling, not on the work of the psychologist in a school, does not justify this slight, for diagnosis and counseling for development are needed by all pupils. It is for this reason that good high schools have counselors more frequently than they have school psychologists: they recognize that all pupils are developing, and that psychological growth can be assisted by counseling. Why, for instance, should vocational choice be viewed as a "problem," when it is actually a developmental task in Havighurst's sense of the term? If counselors and teachers assist adolescents in coping with this developmental task, it is less likely to assume the dimensions of a problem.

Marzolf lists many of the references which appear in the bibliography of the recently published definition of counseling psychology (*American Psychologist*, 1956, 11, 282-285) but his text makes little use of the modern concepts of counseling psychology (as contrasted with clinical) which are contained in it. The chapter on counseling theory provides a good illustration. The recent texts

of Bordin and the Pepinskys are listed in the readings at the end of the chapter, but are not referred to in the text. Perhaps Bordin's book is too new for this to have been possible, but not the Pepinskys'. Similarly in the chapter on diagnostic theory: diagnosis as hypothesis-testing is well treated, but a lack of familiarity with important segments of the literature appears to be revealed by the omission of reference to the Pepinskys' excellent treatise of this subject, by incorrect dates or titles in the listing of Meehl's and Williamson's books in the readings, and by lack of discussion of the contributions of these works in the body of the text.

IT WOULD be an injustice to a good book if this critical discussion were allowed to suffice as an evaluation. As Marzolf points out, the various educational, social-work, and psychological origins of school-staff members doing psychological work create confusion. Since he strives to

bring some order out of this confusion by writing a text on diagnosis and counseling as the common ground of these diverse specialties, it is important to consider how well he has represented the common ground. The conclusion is that he has, as specialists do when writing about communalities, treated his part of the field more thoroughly and more adequately than he has the other segments. He is a school psychologist. Recognizing this bias in emphasis, we must also ask how well the more adequately treated topics are handled.

They are handled well, at both conceptual and practical levels. A chapter on the evaluation of behavior is concerned with principles, with theory, rather than with techniques; the next chapter similarly deals with the theory of diagnosis. The chapters on techniques are full of good how-to-do-its, described and evaluated in the light of considerable practical experience and, unlike those in many



STANLEY S. MARZOLF

textbooks on the practical aspects of counseling, place them in a theoretical context.

The chapter on testing raises a standing question concerning textbooks which treat a broad topic that includes a number of specialized topics. That question is: how should the specialized topic be dealt with, when it must be handled so briefly that the reader cannot learn enough about its techniques to use them intelligently? To make the point concrete, the measurement of aptitude for art and music is treated in *one sentence* of three lines, which include the names of three tests. Obviously the reader is given little help in assessing promise for these fields by this text. And perhaps this type of treatise should not attempt to give him such help, but this reviewer believes that a better understanding of the use of aptitude tests in vocational appraisal could be given in a book on diagnosis and counseling than is achieved by mere cataloguing. Such a book could make it clear to the reader what knowledge tests can contribute, what he should know about these tests, and where he can obtain this knowledge.

THE REVIEWER concludes that the broader task which Marzolf set for himself has not been accomplished. His treatise lacks the orientation found most commonly among counseling psychologists and their subdoctoral counterparts with educational background, the ones who work as high-school counselors, and it underemphasizes some of the techniques widely used by these specialists and by school social workers. The more limited task which Marzolf did in fact accomplish is, on the whole, very well done: the text is probably the most useful of its kind for school psychologists. It has much to offer to counselors who use it to supplement texts like those of Tyler, Bordin, and the Pepinskys. Finally, we may note that Marzolf's commendable attempt to stress the communalities of psychological work in schools, no matter what the discipline of the practitioner, brings out clearly, by its very limitations, the fact that we have not yet reached a stage at which either the domination of the scene by one kind of 'counselor', or the fusion of three or four types of counselors into one, is likely. The

specialties are still too far apart. We need more good treatises on the specialties, of which Marzolf has in fact written one, before merger of all or domination by one can take place.

Myths, Means, and Motherhood

Sylvia Brody

Patterns of Mothering: Maternal Influence During Infancy. New York: International Universities Press, 1956. Pp. 446. \$7.50.

Reviewed by URIE BRONFENBRENNER

who is Professor of Psychology and of Child Development and Family Relationships at Cornell University. He does his research with children and their families and writes on developmental psychology and personality.

LIKE Proteus of old, this volume, if one stays with it, takes on many forms. For the first 137 pages, it is a comprehensive survey of the research literature on mother-infant behavior. The next 137 pages present a detailed report and analysis of the behavior of 32 mother-infant pairs who had been observed intensively for a four-hour period in a standard clinic setting. Finally, true to legend, in the last 37 pages of text, Proteus reverts to his natural form; the author, having struggled nobly to fulfill the sober requirements of scholarship and scientific objectivity, allows herself at last to indulge in the obviously more congenial sphere of full-blown Freudian speculation. The last chapter of the book offers an interpretive essay on mother-child relationships couched in such terms as "clitoridal excitability," "acceptance of the concave genital image," "regressive cathectic of prephallic masochism," and the like. In the words of René Spitz, who writes the introduction to the volume, the author "offers a convincing explanation of the varieties of maternal attitudes by relating them to three stages in the fantasy 'A Child is Being Beaten.'" The present reviewer is not

convinced; Proteus revealed in his true lineaments is still more myth than mortal.

Dr. Brody appears to view Freudian theory as an article of faith, firm and unchangeable, rather than as a flexible framework to be evaluated and modified in the light of empirical findings. Perhaps because of this view, she makes virtually no attempt to analyze research results in terms of their implications for the development of theory. Her review of the research literature, while admirably thorough, is virtually silent on theoretical issues. It is only when the orthodox Freudian position is challenged that she, true to the finest traditions of motherhood, rises to fight fiercely—though not always fairly—in defense of the family name, for, when logic fails, she resorts to psychological sallies of sweeping statement and denial (cf. p. 86).

Dr. Brody's unwillingness or inability to use theory as a tool becomes fatal in the report of her own research. Her presentation is so long on facts, so critically short on meaningful analysis. Over a hundred pages she devotes to case-by-case descriptions of mother-child interaction. These accounts are of excellent quality but they cry out for a more imaginative treatment than the crude and often inappropriate statistical analysis of ratings which the author employs. Indeed one has the impression that the author has temporarily substituted for her Freudian faith an equally uncritical belief in the magical powers of elementary statistics. Endless arrays of means and standard deviations, based on improperly constructed rating scales, are juggled *ad nauseum* in an effort to establish the "main hypothesis" of the study "that in the infant interaction feeding takes a central position in that most things that a mother does with her infant... are related to her style of feeding behavior with him."

DR. BRODY's statistical methods are of the most primitive sort; neither the need nor the know-how for measuring reliability, statistical significance, or magnitude of association are within her ken. (In a recent issue of this journal, Gewirtz prayed that "some missionary carry to the psychoanalytic community the simple evangel of the contingency

table.") Nevertheless, despite the crude methodology, one suspects that the trends which this author discerns are indeed there in her data; feeding behavior is probably the most important source of variance in these ratings, but perhaps only because this was the kind of behavior which Dr. Brody and her fellow observers were most interested in finding and describing.

It is unfortunate that Dr. Brody's preoccupation with her major hypothesis has diverted her attention from other, more significant issues. Thus, with regard to the intriguing question of the relationship of maternal behavior to infant response, she does little more than scratch the surface. A cursory examination of her material suggests a variety of challenging problems that could be pursued with the available data: an analysis, along ethological lines, of the stimulus properties of the infant which evoke maternal behavior, a study of the relation of body contact to infant response, an examination of differences in the child's behavior associated with maternal vocalization. These and many other questions should offer an exciting prospect to the theoretically oriented student of psychological development.

The 32 cases studied were selected from a sample of 128 mother-infant pairs included in the Infancy Research Project conducted at the Menninger Foundation under the direction of Drs. Escalona and Leitch. It is to be hoped that the final report of this important undertaking, which is yet to be published, will do full justice, both in terms of method and theory, to the excellent scientific material which Drs. Escalona, Leitch, Brody, and others have so painstakingly gathered and which Dr. Brody summarizes in the present volume.



The test of an author is not to be found merely in the number of his phrases that pass current in the corner of newspapers... but in the number of passages that have really taken root in younger minds.

—THOMAS WENTWORTH HIGGINSON



The Mathematicians Who Counted

James R. Newman (Ed.)

The World of Mathematics. 4 Vols. New York: Simon & Schuster, 1956. Pp. xviii + 724; vii + 725-1414; vii + 1415-2022; vii + 2023-2535. \$20.00.

Reviewed by GEORGE A. MILLER

Dr. Miller is Associate Professor of Psychology at Harvard University and, among other things, is concerned with language, communication, and information theory. Mathematics is a language.

THE PROCESSES of thought are like a huge reservoir of mystery, out of which psychologists dredge one puzzle after another. Dried out and polished up, they become sensation, perception, intelligence tests, memorization, or personality theory. So far, however, the big prize, thought itself, is still as remote and mysterious as ever. Where in our catalogue of j.n.d.s and IQs, of Gestalts and reflexes, of ink blots and nonsense syllables, have we made room for Archimedes, Newton, or Gauss?

There is a famous story about Albert Einstein and the cosmological constant. On the basis of the astronomical data it was necessary to correct the equations for a relativistic universe by a constant. Einstein invented it, others adopted it, but then Einstein abandoned it. Such a constant cluttered the mathematics. Faced with a choice between the empirical data and mathematical elegance, Einstein, the least arrogant of men, decided that truth must lie on the side of simplicity. He would not complicate a beautiful theory to fit an ugly fact. Thirty years later when the observatories provided better data, it was proved that Einstein was right and the cosmological constant was unnecessary. What variation of the concept-formation experiment can we use to study that kind of thinking?

James R. Newman's most recent contribution to the popularization of science is an anthology of psychological miracles. There is much in these four volumes to discourage a psychologist. Is there any formula but probability that will add revelation to a concatenation of conditioned reflexes? But pure chance does not explain why so many happy accidents occur to the same person. What neurotic

twist raised the faint voice of reason to a deafening shout in that "most fearful, cautious and suspicious" ego we call Newton, or turned the "feeble and timid" child into Poincaré, the last universalist? What psychologist has a scientific alternative to superstitious credulity when he surveys the inscrutable mind of genius?

It is easy to come away from Newman's anthology with the feeling that his heroes were born to know the truth. Somehow, from somewhere, they understood how things must be; equations and experiments were merely tools they used to demonstrate and communicate what they knew already. Thus the respectable English physicist, Andrade, says that Newton "derived his knowledge by something more like a direct contact with the unknown sources that surround us," and Keynes, who is not famous for his credulity, agrees that "it was his intuition which was pre-eminently extraordinary... The proofs, for what they are worth, were... dressed up afterwards—they were not the instrument of discovery." "So happy in his conjectures," said de Morgan, "as to seem to know more than he could possibly have any means of proving." As for direct contacts with unknown sources surrounding us, the psychologist must, although somewhat uneasily, reply, "Buncombe!" But have we a better theory?

SOME hint is given by the occasional references to their powers of concentration. Archimedes lost his life because he was absorbed in contemplation of a mathematical diagram. Newton explained that he made his discoveries "by always thinking about them," and Gauss advised others to "reflect on mathematical truths as deeply and continuously as I have." They did not need to surround themselves by placards admonishing them to THINK; they were afflicted by

thought, it overwhelmed them like a Socratic seizure.

A more substantial clue may be contained in the frequent references to the mysterious power that seems to flow from a good notation. Turnbull notes that the Greek triumphs in geometry followed from good notation, but their arithmetic and algebra were not so favored. Lewis and Langford comment that "operations which any fourth-grade child can accomplish in the modern notation taxed the finest mathematical minds in the Age of Pericles. Had it not been for the adoption of the new and more versatile ideographic symbols, many branches of mathematics could never have developed, because no human mind could grasp the essence of their operation in terms of the phonograms of ordinary language." In order to study the interaction of thought and symbol it is not necessary to travel with Whorf to the Zuni Indians; the language of mathematics is rich with excellent examples. Why are Arabic numbers so superior to Roman? What do Cartesian coordinates enable us to do that was never done without them?

IT IS NOT enough to have the idea without a good notation. A beautiful example is provided by the history of the calculus. Newton wrote " \dot{x} " where Leibnitz wrote " dx/dy " and " \ddot{x} " instead of " d^2x/dy^2 ". Newton's notation for integration was even clumsier, where Leibnitz's " \int " was neat and convenient. But Newton and Leibnitz became involved in a bitter controversy over priority and this dispute became a matter of patriotism. British mathematicians, honoring Newton, refused to use Leibnitz's notation. "Thus," Jourdain comments, "for considerably more than a century, British mathematicians failed to perceive the great superiority of Leibnitz's notation. And thus, while . . . Continental mathematicians were rapidly extending knowledge by using the infinitesimal calculus in all branches of pure and applied mathematics, in England comparatively little progress was made."

The economy of good notation is something that a psychologist might study. The best examples would come from algebra, for there the notation is everything. Once we understood something about the kind of advantages that nota-



JAMES R. NEWMAN

tion can bestow, we would be in a better position to understand how a man could come to invent it.

Newman has done a remarkable job of selection. Time and again he has combed a man's work to select just those passages he should have selected. All the famous popularizations are represented somewhere in its 1,200,000 words, but the best reading is apt to appear in those pieces that are less famous but so good that Newman could not bear to leave them out. Of direct interest to psychologists are the selections by Otto Koehler, Gregor Mendel, E. G. Boring, Francis Galton, Abraham Kaplan, R. A. Fisher, G. Polya, Henri Poincaré, A. M. Turing, George Birkhoff, Norman Campbell, and Leslie A. White. There is so much that mere listing cannot do it justice; it is almost impossible to judge from the title of a selection whether it will contain observations or speculations of psychological interest. The best thing to do is to read it and see for yourself.

It is not a criticism of Newman to point out that this small library was compiled for the reader who is indifferent to mathematics. Thousands of people will read and enjoy it who would not dream of reading mathematics. I hope that many psychologists will be among them.



A Psychotherapy for Whom?

Percival M. Symonds

Dynamics of Psychotherapy: The Psychology of Personality Change. Vol. I: *Principles*. New York: Grune & Stratton, 1956. Pp. xi + 211. \$5.50.

Reviewed by BERTRAM R. FORER

who is an associate clinical professor in the University of California at Los Angeles, who has had a varied and large experience in clinical psychology, teaching and practicing, and projective techniques.

THE construction of a book on psychotherapy is peculiarly hazardous because opinions regarding strategy, methodology, theory and research findings are held with both disunity and emotionality. It seems not too brash to state that the usual criteria of psychologic science have not yet been satisfactorily applied and that their restrictive application to present therapeutic practices would be unwise. Therapeutic procedures rest largely on personal credo and habit and personal validation. At present this state of affairs seems neither wrong nor one requiring apology.

Evaluation of such a book is complicated by any feature which requires the reader to shift his vantage point too frequently: from one therapeutic theory to another, or from the naive generality of the neophyte to the differentiated bias of the practitioner.

Here then is a serious difficulty in Symond's book. It is his intention, in setting the stage for his two later volumes, "to spell out . . . simply and straightforwardly, for those who will undertake the practice of psychotherapy, its basic principles, processes and procedures." A watered-down Freudian psychoanalytic framework provides his principles. Volume I, describing the criteria, goals, and effects of psychotherapy and a theory of neurosis is too simply written to deal effectively with the many complex concepts it introduces. A utilizable understanding of the bulk of his exposition requires more than the casual familiarity with psychoanalytic language that most beginners in therapeutic work are likely



—Stone Studio

PERCIVAL M. SYMONDS

to possess. Yet the psychoanalytically sophisticated may dispute the incorrect, dubious, and undefined usages of terms and also the uncritical applications of psychoanalytic procedural standards to briefer therapies. The author's conforming to such varied levels of professional development has weakened his communication to all.

In an eclectic theory of psychotherapy there is a weakness just as there is danger in eclectic therapy itself. Psychotherapy is a difficult business to one who wishes systematic understanding of what he is doing and some fairly consistent heuristic hypotheses to guide him through his patients' ingenious defensive shenanigans. Indeed Symonds performs a service by adhering largely to one theoretic approach; yet he undermines his contribution by capitulating too respectfully to other ideologies which, despite their independent merit, dilute and confuse his theory.

Occasionally the discussion provides a sprinkle of psychoanalytic seasoning spread upon a matrix of phenomenologic, neo-Freudian, sociologic and other ingredients, lacking synthesis and depth and producing a vagueness not properly inherent in psychoanalytic theory. Those persons untrained in psychoanalytic theory will require other books for definitions and clarification of such terms as *repression*, *defense*, *oral* and *anal* character, *superego*, and *Oedipus complex*.

which are used without sufficient delineation of their psychologic meaning or their applicability to the therapeutic process. To some readers the simplified presentation of psychoanalytic concepts may be useful despite its lack of systematic organization. Yet the communication is awkward; it has the flavor of an academic introduction to many facts and facets relating to the therapeutic process, while it fails to achieve clean differentiations, pithy formulations, and profound insights.

THIS reviewer differs strongly with many of the statements—for example, with the author's hope "that the client will gain inner peace and freedom from anxiety, worry and stress" (p. 9). The implication that it is possible or even desirable to escape completely from anxiety exemplifies the unrealistic flavor that permeates the exposition. Elsewhere the author's therapeutic goals seem to disregard the constructive role of anxiety and to value excessively unproductive, unmotivated "contentment." Some clients need to develop the ability to experience discomfort and get into troubles they have chronically skirted.

The discussion of indications and counterindications for therapy is puzzling. Symonds considers as hindrances or counterindications to therapy such problems as resistances, symptoms and character problems which others consider the raw data of therapy, the foci of therapeutic attack. Contrary to many current opinions the author believes schizophrenia to be a disorder "for which one cannot expect benefit from psychotherapy." In answer to some of the author's "counterindications" the reviewer would argue that *all* clients cling to symptoms, that most of them fear self-revelation, that pride can be worked through, that passive persons can be helped toward assertiveness, that magical

thinking can be lessened by therapeutic skill, that schizophrenics have often been steered to more gratifying lives, that sophisticated patients cannot successfully "forget all about psychoanalysis and everything connected with it," and that many perversions have yielded to psychotherapy. To be sure, therapeutic flexibility and ingenuity are called for and both therapeutic goals and techniques will vary, perforce, with the personality being treated. Poor prognosis or limited goals are not necessarily counterindications to therapy. Predictions of therapeutic outcome are notoriously inaccurate.

The book places satisfactory emphasis on the role of anxiety in psychopathology, but fails to distinguish between neurotic and healthy anxiety or to show how anxiety can be used as a therapeutic lever.

Another point of dubiety is the author's excessively non-interventionist attitude. While non-directiveness is an important technique or attitude, it is not universally applicable. One of the hard-won insights of the past few years is the recognition that the setting of realistic limits is a vital component of the therapeutic armamentarium. Similarly, insight and abreaction, the author's *sine qua non*s, are neither possible nor desirable in every successful case.

Were it not for the variability in degree of technicality, the book would be of greater value than it is to the clinical student beginning to explore the intricacies of the therapeutic process. Even with what this reviewer, with his moderately comfortable psychoanalytic bias, considers to be erroneous and misleading statements of theory and fact, the book contains an exceptionally wide coverage of the myriad complexities of the therapeutic process. Yet as a guide for the more seasoned practitioner, its shortcomings seem excessive, although, since the volume is intended as the first in a series of three, some of these strictures may ultimately prove to have been premature.



It would seem either that the physical and psychological explanations of mental states cannot both be right, or that, if they are, there must be some logical expression of their relationship to each other.

—SIR RUSSELL BRAIN



CP SPEAKS . . .

*Psychological Miracles; and best of all
The Improbability of Isaac Newton!*

THIS month *CP* prints in ON THE OTHER HAND . . . a list of 14 possible reforms for *CP*, a list sent in by a friendly and gracious critic. Only one of these suggestions has *CP* accepted in the form it is made—a stiffer cover. Another is but partially met by *CP*'s new 1957 format. *CP*'s new practice of identifying reviewers is a new gewgaw that this critic will probably deplore, but before *CP* made its decisions for 1957 it withdrew into its inner chamber and thought hard about democracy, leadership, and reader-centered editing.

It is clear that this critic wants more sobriety and less gaiety in *CP*, more bread and fewer circuses. He likes the fun, but it is not what a grown-up pays good money for. Take out the pictures, chuck the unnecessary titles to the reviews, extirpate the aphorisms and all but the smallest ornament, pack the white spaces with wholesome nutriment, and reserve all infantile regression for alumni day. In these respects Moscow is better than Tahiti. Let *CP* be efficient, for science must advance.

What should *CP* do? Is a reader poll the right thing? Or should *CP* have convictions, assume the role of educator, and hope only for ultimate democratic support? The trend of opinion about *CP* should be more important than frequencies of liking and disliking at any moment. Leadership occupies a middle ground between graceless autocracy and invertebrate democracy, and really *CP* wants a chance to be convincing before it goes to the polls. Anyhow it thinks that right at this moment the majority of its readers like its present temperate profligacy, prefer the luxury of a little waste to having all their food in tasteless capsules.

In general, though, *CP* says *Wait*. Give it a chance. Take *CP* whole, a second year of performance. No one knows yet—not even *CP* at this moment of writing—how many reviews and how many words of reviewing *CP* is going to have had in

Volume 1 when the count is made. Let him who wants more reviews say what books got omitted that should have been reviewed. For instance, how does *CP* compare in coverage with the APA journals that were its ancestors?

What is needed here is control. Scientists ought to know that. They do in their research, but not so often in their critical leisure. So: you don't like *CP* with its present gewgaws and white spaces? If you can reduce 32 pages to 28 by taking them all out, what are you going to put in the 4 pages saved? Exactly what reviews of books otherwise omitted? Maybe there are no books left whose reviews would be as valuable as the stuff extirpated. That is what control is. Or are the reviews too short? No trouble there; reviewers always want half again as much space as they get. But are their extra words worth a picture? Do not compare the area of a picture with the area of the most pungent sentence in the review it graces. Compare the picture only with the best sentence that the reviewer felt he could do without when he cut his review down to required size. Double reviews? Oh, that's too complicated to discuss now. Suffice it to say that they turn out to be redundant of each other more often than you would think.

So *CP* says *Patience*, and don't forget about controls when you criticize. And it's going to take an act of Congress before *CP* yields enough to try to carry the donkey over the bridge.

*

In this issue *CP* prints George Miller's review of James R. Newman's *The World of Mathematics*. *CP* sought a title for this review and could think of nothing better than *The Matrix for Genius*, so it asked the reviewer for help. He came up with 2⁴ titles and some of them are too good for the wastebasket. Just see what a reviewer can do to help the Editor. *Mathematics in 1.2 × 10⁶ Easy Words; Real and Complex Mathematicians; The Matrix of Mathematicians; Anthology of*

Charles E. Osgood has sent *CP* the following comment:

"A little book by Leonard Carmichael, *The Making of Modern Mind* (Elsevier Press, Houston, 1956), has recently come my way. It comprises two Rockwell Lectures, one on The Emergence of Mind in the Animal Series and the other on The Emergence of Mind in the Growing Individual, delivered at the Rice Institute before what I assume was a very diversified audience. In these lectures Carmichael meanders sagely over the fields of comparative and developmental psychology, here noting a bearing on religion and there an implication for political philosophy. These lectures do not pretend to be a contribution to psychological science as such, but they do contain many wise observations and testify to Dr. Carmichael's broad scholarship."

If two or three or *n* people are writing a book together and they really think it is going to be as important as they always do, then they had better have their picture taken together, all *n* of them, so as to have something for *CP* to print when it gets around to reviewing their brain child. It's a lot more fun to see that the authors really did associate with each other, and let the picture be the authors "at work or at play," for *CP* is no head hunter.

*

Talk about the *Zeitgeist*'s making people think alike, putting identical words into their mouths, so that the later speaker is suspected of plagiarizing the earlier! Someone sent *CP* the other day the aphorism: "You cannot hurry history." *CP*'s Editor has often used this phrase. It's good. It was his way years ago of shutting up the dynamic psychologist who complained about too much psychophysics and too little 'motivology' (Woodworth's half-century-old phrase) in psychological research. So the Editor looked, sitting a little straighter in his chair, for his own name at the end. Fame at last! But to whom do you suppose it was attributed? Adlai Stevenson, of all people!

—E. G. B.

Six Authors in Search of a Theory

J. L. McCary (Ed.)

Psychology of Personality: Six Modern Approaches. New York: Logos Press, 1956. Pp. xvi + 383. \$6.75.

Reviewed by ROSS STAGNFR

Dr. Stagner is a professor in the Department of Psychology and the Institute of Labor and Industrial Relations at the University of Illinois, wrote a Psychology of Personality twenty years ago and revised it ten years ago. He has published research on visual perception and conditioned reflexes, but nowadays his interests lie in parent-child relations, personality, and attitudes toward authority, especially within industry.

No one can deny that psychology is badly in need of some theoretical clarification in the area of personality, and perhaps the way to get it is by binding six divergent essays into one book—but I doubt it. Theoretical rapprochement will occur as some individual studies the varying conceptualizations, analyzes them for fundamental parallels, and integrates them into more comprehensive formulations. Such activities clearly have been engaged in by two of the authors in this symposium, Leopold Bellak and David McClelland. The others have, in the main, been content to issue new statements (and even this adjective is not always justified) within their familiar frames of reference. The net result cannot be adjudged more than moderately valuable.

This volume of essays "is an outgrowth of the Annual Lecture Series in Psychology held at the University of Houston" in 1954. Apparently the authors have done some revising and expanding of the materials presented in the lectures. Certainly the stylistic average is superior to the level of other such symposia of recent years. Dr. McCary has contributed a thumbnail biography of each lecturer and a very brief summary of each essay. He has also provided an index, and this can be used as a device for checking to see if the six authors have been writing about the same concepts or problems. Tested on this basis, the essays seem not to belong within the same covers; even a term like aggression is indexed for only three essays, anxiety is noted for only

one, ego in two, and motives in two. Values is not in the index; however, three authors seem to have mentioned the self in some fashion. In short, the impression is given that each author has happily galloped off in his favorite direction, paying little attention to whether his road parallels that of any of his colleagues. (McClelland is of course excepted, since he consciously tried to integrate the statements of the other contributors.)

Leopold Bellak's essay is a brilliant example of what a psychoanalyst can do, if he is not blinded by doctrinaire preconceptions, by way of integrating with traditional Freudian concepts new trends in conceptualization. It is not surprising, given Bellak's interest in projective testing, that he is especially sensitive to the new work on perception as a personality function, and that he has fitted a variety of ideas deriving from the 'New Look' school quite comfortably into the framework of orthodox analytic theory.

His statement on the process of libidinal cathexis (pp. 20-23) is at the same time delightfully humorous, conceptually clear, and slightly plausible. It will, we should note, probably be rejected out of hand by party-line analysts, but, for the layman who wants to know what the Freudians mean by object-cathexis, I can think of no better statement.

THE nearest thing to a behavioristic view of personality theory in the volume is the one by Raymond Cattell, who would undoubtedly be called a behaviorist if it were not so much more appropriate to call him a factor-analyst. His major contribution, a point which he has stressed often in the past but which needs repeating, relates to the concept of functional unity. Essentially, Cattell is concerned to emphasize that we should not use a concept like 'the superego' unless we can demonstrate that covariation of different aspects of behavior supports the hypothesis of a functional unity. Psychoanalytic theory has, of course,

been a major offender in ignoring this canon.

Some of the work on 'culture and personality' likewise appears to be vulnerable to this criticism. There is a marked tendency to accept stereotypes without examination, as when Margaret Mead writes, "Membership in a large nation or a small one is something that affects all members of that society in some way, as the Pole transmits pride, the Czech caution, and the Norwegian independence to the children who are reared to carry on the tradition" (p. 207). The skeptical reader would like something more than anecdotes to support such sweeping generalizations about national character.

Cattell, on the other hand, is on less firm ground when he implicitly compares Freudian and Lewinian contributions with his own, saying, "Now that some *really effective* objective psychological methods, concepts and therapeutic practices are being developed, one should beware of confusing the mere social prestige of these older theories with scientific prestige" (p. 66). Glossing over the phrase *really effective...therapeutic practices* as poetic license—since the demonstration of such is decidedly an open question at the present time—we may question the "really effective objective psychological methods." Cattell allots a good deal of space to results from his "16 P.F. Questionnaire," yet a recent study based on 200 subjects reported correlations between Form A and Form C for the separate scales of this test ranging from .194 to .570 (median about .40). The data are a little better for his behavioral measures of different factors. Has Cattell found significant 'functional unities' here? Some of us will have doubts. We can agree with Cattell on the need for more methodological rigor in personality research, while sprinkling salt liberally over his claims regarding the dimensions of the personality sphere, invariant factors, and the like.

Probably many psychologists share

my feeling that Margaret Mead and the cultural anthropologists need to consider more stringently Cattell's dictum about functional unities. I can accept as a plausible and indeed attractive conceptualization Mead's idea of human growth through *modes* and *zones*; still, I experience acute discomfort when encountering sentences, such as "Balinese flexibility can be seen as an elaboration of a type of fetal and neonatal flexibility which in most cultures is ignored and tends to disappear; or the extreme visual responsiveness of the Chinese can be related to the way in which Chinese parents and nurses distract the child from handling nearby objects by shifting its attention to looking at distant or unreachable objects" (p. 228).

Mead is on rather firm ground in her comments on the difficulties of using 'learning theory' (how did the Hullians purchase the copyright on this term?) as a model for anthropology. It is not quite so clear why she has not given some consideration to the potentialities of a perceptual formulation of anthropological data, since perception plays such an essential role in the interpersonal relations involved. For example, she says, "the mother may see herself as feeding the baby when her breasts irk her by their fullness, or as feeding the baby when it cries, or as feeding the baby when it is time to feed the baby . . . or she may see the baby as compelling her to feed it." (p. 230). Certainly a conceptualization in terms of culturally patterned expectancies would be applicable to many such interactions; and the relation of the specific family context to the 'total culture' may have much more in common with the figure-ground phenomenon than is apparent at first glance. Edith Cobb's "analysis of cosmic sense" is, I infer, a quasi-perceptual approach but, unfortunately, the reference given here is to an unpublished manuscript.

No student of personality, I am sure, would question the broad relevance of culture to the molding of the unique individual. The cultural milieu presents patterns which we must learn to differentiate, frustrations and threats with which we must cope, and rewards which we generally enjoy. But many of us will question what seems to be the implication of Mead's concluding sentence, part of which states that "we need better ways

to utilize the strengths of what has variously been called *tentativeness*, *situationalism*, *other-directedness*" (p. 246). The sentence is ambiguous; but it suggests to me that she endorses a faster adaptation to changing culture, making the personality a chameleon to the current fad. This would be 1984 come much too soon upon us. Perhaps we need educational procedures which will help the individual hold to sound ethical and moral values *in spite of* the rapidly shifting culture.

NEVITT SANFORD opens his essay with the comment; "That *The Authoritarian Personality* should have a place in a book on theories of personality is a little surprising" (p. 255). I agree with this modest view. While the work of the Adorno group was empirically interesting and stimulating of research on a variety of important problems, it did not generate a new theory. As Sanford correctly points out, the whole conceptualization is Freudian in origin; it is a sophisticated, culturally alert, methodologically educated kind of Freudianism, but not more. Essentially what the book, *The Authoritarian Personality*, had to say was that there are personality variables which determine what the individual will take from the culture (anthropologists please note), and also, though in a very limited way, that some aspects of parent-child relationships are involved in determining these variables. Thus Sanford wisely picks up concepts from learning, perception and psychoanalysis, as they fit his needs, without any rigorous defining of terms. This is an empirical and inductive approach, not a systematized theory and especially not a general theory.

What disturbs me more is Sanford's refusal to face up to the fact, repeatedly reported, that the F-scale involves a tremendous response-set bias. When the F-items are re-stated, so that *disagreement* would be expected of an authoritarian, those subjects high on the F-scale continue to *agree*; the correlation between the two forms of the scale is *negative*. I grant without hesitancy that there must be something in the variety of significant correlations reported by Sanford, as by the original authors; but we do not know much as to the nature of this underlying functional unity. Certainly an analysis in terms of aggression, interception, pro-

jectivity, etc., which relies on the content of the questionnaire items cannot be trusted. Sanford concedes the existence of contradictory data (p. 282), but speedily abandons the point.

GEORGE KLEIN's essay is another in his stimulating series of discussions of perception-personality relationships. To me this one was both less exciting and less satisfying than the essay in the volume by Blake and Ramsey; Klein could have profitably dealt more extensively with some of the enduring perceptual dispositions, such as leveling-sharpening, narrowness of categorization, field-dependence, and others of this class, in relation to phenomena such as goal-selection, sublimation, narcissism and conformity. Unfortunately, even the term *motives* in Klein's title seems to refer to motives for perceiving, not to the motivated phenomena of goal-selection and the perceptual processes involved.

Klein notes that most of the studies of perceptual distortions induced by need-states use impoverished stimuli, and he comments whimsically that "the most impressive oversight in motivation-centered studies is their failure to resolve a paradox created by their own demonstrations: . . . how is it possible that perception is . . . effective," he asks (p. 130). This shoe may pinch some corns. Perhaps there has been too much concern with perceptual errors. But Klein turns to studies in the psychophysical laboratory, where all factors favor veridical report, to show how effective is our perceiving process. In daily life stimuli are more impoverished and conflicting, sets are misleading and errors common. It is not wise to look exclusively at either side of this coin.

DANIEL McCLELLAND is to be especially commended for his efforts, in the concluding essay of this volume, to integrate or at least to identify parallels in the preceding contributions. Indeed, he even goes beyond these confines and incorporates other stimulating approaches; for instance, by means of his concept of 'sensory adaptation level', he relates Sheldon's somatotype scheme to motivational and goal-seeking differences among personalities. Within the broad categories of motive, schema, and trait, he notes congruences of psychoanalytic, behavioral,

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cultural, and perceptual formations. His own bias toward a perceptual approach shows, for example, in the way he deals with motives: "some drives appear to be based on the pleasure resulting from small stimulus discrepancies over adaptation level" (p. 329); "motives are associates which serve as cues for those changes in affect (pleasure or pain)" (p. 331). *Schema* is a frankly perceptual derivative which serves excellently to integrate the authoritarian personality and the cultural approach with observations of individual personalities. Finally, *trait*, although defined behaviorally (p. 357), leans strongly on consistencies in perception of situations.

A sound theory of personality needs to be grounded in empirical data, to evoke a minimum number of internally consistent intervening variables, and to permit deduction of empirically testable predictions. At the present time we do not have such a theory in a form to cover all the protean manifestations identified by the term *personality*. This book gives us some good examples of partial theories and calls attention to both empirical and conceptual problems. As such it may provide a useful step on the way to the development of a truly generalized theory of personality.

that can aid selection interviewers a little bit. Interviewers who are innocent of background in psychology can get some value from it. It is simply, clearly, concisely, scholarly, and sometimes even charmingly written. The book gives practical, non-technical suggestions to the novice.

T

HE AUTHORS' attempts to systematize the interview, their treatment of the board interview and of multiple interviewing seem to me to be adequate. Missing and needed is a treatment of job analysis and position specifications. The illustrations are mostly concerned with civil service and military selection and with upgrading problems. One of the chapters, fairly enough, is for and about the interviewee.

I am happy to note the authors feel that the stress interview 'defeats its own end.' Assessment in the OSS way, involving rash and incautious inferences, has now been demonstrated to be useless.

Quite rightly the authors emphasize the fact that the interview is a subjective and fallible process. They attempt to cover some of the pitfalls, but fail to consider contagious bias and to provide an adequate treatment of stereotypes. They also fail to utilize a number of important works on interviewing published on this side of the Atlantic ocean.

Anstey and Mercer contend that there are two ways to improve your interviewing: you may compare your results with those of other interviewers or you may follow up on your results. The first method is, in general, worthless—remember the nineteen famous clinicians whose conclusions agreed and who were all wrong (Holtzman & Sells, 1954)? So the second method should be emphasized more and more.

I do not quite agree with Lord Piercy, who penned a foreword to the book, saying that it will "give interviewers better and surer powers of decision." I believe the interview to be an evil, although perhaps a necessary one. Why not depend more on less inferential data such as work samples and validated biographical items with empirical keys? Why not make the interview ancillary to these?

Is Interviewing a Necessary Evil?

E. Anstey and E. O. Mercer

Interviewing for the Selection of Staff.

London: George Allen & Unwin for the Royal Institute of Public Administration, 1956. Pp. xiv + 111. 10s. 6d.

Reviewed by ROGER M. BELLWS

who is now Professor of Psychology in University College in Rutgers University and who was a co-founder of Richardson, Bellows, Henry and Co. He has long been engaged in research, in writing and in editing in the field of business and industrial psychology and is the author of a revised edition of Psychology of Personnel in Business and Industry in 1954.

ANSTEY AND MERCER have achieved their purpose of writing a booklet

FREUDIANA

A. A. Roback

Based largely on correspondence from 1930 until a few weeks before his death in 1939, this volume reveals a fascinating, little known phase in Freud's life.

Abounding in Original Material

Here, for the first time, is told the story of a proposed *Festschrift* in Freud's honor with letters (some in facsimile with clarifying notes) from invited celebrities—Bernard Shaw, Havelock Ellis, Pavlov, Roman Rolland, C. S. Myers, etc. An interesting chapter, too, is Freud's reaction to Saudek's analysis of his handwriting.

In this book also you will find the Hebrew Memorial Leaf and Bible inscription in Freud's father's hand with translation and an analysis of their effect on Freud's life and thoughts; the Jelliffe-Roback polemic on Freud; Roback's reviews and critiques, including lengthy essays on Lapses, Moses and Monotheism, and Jones's Life of Freud.

Letters Reveal the Man

Six sparkling, previously unpublished letters from Freud to the author are included in the original German in a separate appendix, and other Freud letters are paraphrased with comments and Roback's replies.

240 pages; 13 illustrations, including a full-page portrait of Freud and a photograph of the Clark Centennial Group; 2 indexes—this centennial volume is a valuable addition to Freudian literature.

\$5.00

(We pay the postage)

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Clinical Neophyte Meets Persons

Richard W. Wallen

Clinical Psychology: The Study of Persons. New York: McGraw-Hill, 1956. Pp. xiii + 388. \$6.00.

Reviewed by EDWARD S. BORDIN

Dr. Bordin is Professor of Psychology at the University of Michigan, where he is also Director of training in clinical and counseling psychology. He is the author of a book and numerous papers on counseling and psychotherapy.

AUTHOR of a textbook on clinical psychology must meet and resolve a number of perplexities which mirror the still relatively immature state of training in clinical psychology. Since the end of World War II a great many individuals, committees and other groups have addressed themselves to the questions of what aims are to guide the educational program for clinical psychologists and of the content and procedures to be included in that program. Though the Shakow Committee report and the later report of the Boulder Conference demonstrate that there is sufficient agreement to make possible accreditation of doctoral programs for this field, a great deal of variation in belief and procedure still exists.

The vast majority of psychologists are agreed that a separation in training between scientific (*basic, experimental, theoretical, and research* are alternative terms) and applied psychology similar to what has occurred in medicine is to be avoided. The clinical psychologist is to be "a psychologist first," a phrase which is usually taken to mean that he must possess in common with all other psychologists some irreducible core of psychological facts, concepts and research methods. How, we may ask, is this union of science and practice to be attained? Here variation and disagreement appear. There are training programs in which the integration is expected only within the student. He receives a set of lectures and other instructions on concepts and research methods and a parallel set on applied practices and procedures. Integration is solely his task. At the other extreme maximum efforts are made to present theory, research, and practice, each in the context of the others.

Texts on clinical psychology exhibit a

similar variation in their modes of treating clinical tools and procedures. This latest text, by Richard W. Wallen, intended as an introduction to clinical psychology, belongs to the group that assumes responsibility for guiding the student's efforts to integrate theory, research, and practice. The author does not place so much emphasis on general research methodology as do Shaffer and Lazarus but is more successful than they in keeping his reader always in touch with the practical problems that the clinical psychologist must face.

Many clinical teachers, though not agreeing with him at all points, will like Wallen's vivid descriptions and illustrations of the clinician's task and the way that he calls attention to many assumptions, largely still unverified, which must be and are made in doing the job. In his first three chapters, he moves from a description of the orientations, work settings, and qualifications of clinical psychologists to the central significance of prediction and then on to the clinical process of observing and analyzing behavior. This third chapter is one of the high points of the book. In this reviewer's opinion, here is to be found one of the most instructive and acute discussions of this aspect of clinical work. It is just what the clinical neophyte wants and needs.

THE remaining chapters—there are thirteen in all—follow the chronological order of events and requirements that are likely to appear as clients or patients seek help. Thus Chapter 4 takes up the feelings likely to be experienced by client or clinician during the first meeting, how the clinician reacts to them, and the basis for his reactions. The next eight chapters are devoted to tests and other procedures used in diagnosis. Two chapters are devoted to the interview, one to behavior observations and inferences, the other to obtaining and using life-history reports. The former of these two will be



RICHARD W. WALLEN

particularly effective in sensitizing the new clinician. A psychiatrist, Roy M. Witman, contributes a chapter on medical assessment, one designed to inform the student of the contributions of medical clinicians. There are three chapters that deal with personality tests other than the pencil-and-paper variety, and one chapter devoted to the Rorschach and another to T.A.T. The Sentence Completion Test, personal data blanks, modifications of the Rorschach, figure and mirror drawings, and personal documents are each treated briefly. A final chapter is devoted to psychometric (pencil-and-paper) tests. There is sure to be much eyebrow-raising over the omission of discussions of any of the individual intelligence tests as well as the many tests and devices used in clinical work with children or in special clinical problems. Wallen has concentrated on the diagnostic requirements of counseling and psychotherapy with young adolescents and adults. His last two chapters provide an effective but elementary overview of variations in psychotherapeutic methods.

By aiming his book at advanced undergraduates as well as graduate students, Wallen complicates his task. Where he accommodates to his less advanced audience, he will probably lose the graduate student's interest. Chapter 1 suffers especially in this way. Conversely, many of his concepts and discussions will delude

the undergraduate into thinking he understands what is still beyond him. Despite these reservations the reviewer finds this a very readable book. The discussions of the Rorschach and T.A.T. are likely to satisfy some of the new graduate student's longings for opportunities to master techniques which promise to open his eyes to the full depth of human personality. At the same time these treatments will in no wise replace the more intensive study of clinical techniques which will follow.

Now for a few criticisms of specific details. Wallen adopts an essentially sound procedure of studding his chapter with problems of a clinical nature posed for the student and designed "to initiate clinical thinking, speculation, and interpretation, rather than to recall the points

that have been made." Many of these problems are acknowledgedly without right answers. Unfortunately, a number are so ambiguous as to be unanswerable. Though students should be encouraged to speculate, they should learn also when speculation is premature or fruitless. On the whole, the author exhibits a good blending of research sophistication with insight into the clinician's frame of reference, but this reviewer found jarring his failure to introduce the concepts of construct validity long before taking up psychometric tests. This conception of validity was, in fact, especially designed for projective instruments.

Taken all in all, this book should be useful in an introductory course for advanced undergraduate or graduate students, but it will need to be supplemented.

chologists will agree. He believes that getting research done is a matter of appropriating funds for it, lack of competent researchers notwithstanding. With this view psychologists will disagree. It turns out that Gorman is talking about physicians and the kind of research that is oriented toward discovering the schizococcus or tracing the neurotic pathway. Psychology, the only profession in the field that emphasizes research training for all its members and the one that, from the best information available, is actually conducting the bulk of relevant research nowadays, is scarcely mentioned at all. But at least the man believes in research, as will the readers of this review, and that clearly is something to be grateful for.

There are features of the book for which ungrudging credit should be given. There is the plain fact that a big battle is on to clean up a mess that the nation has allowed to reach disastrous proportions. Mike Gorman is in the thick of that fight every day, flailing away right and left. In this book he has provided his fellow crusaders with an arsenal of words, phrases, and facts that ought to scare the living daylights out of a lot of legislators and make some of the ladies of the current-events club drop stitches in their knitting. But why—and this still sticks in the reviewer's craw—does not a man employed in this key position of leadership have an obligation to discover who is on his side! Or would that be a fatal deviation from medicine's party line?

Cry of an Exasperated Crusader

Mike Gorman

Every Other Bed. Cleveland: World Publishing Co., 1956. Pp. 318. \$4.00.

Reviewed by GEORGE A. KELLY

Dr. Kelly is Professor of Psychology at Ohio State University, a man intricately involved for many years in clinical and professional psychology, and the author of the recent two volumes, The Psychology of Personal Constructs—A Theory of Personality and Clinical Diagnosis and Psychotherapy.

If there is an angry note of impatience in this book, it is long accumulated and difficult to restrain. Eleven years ago, when as a newspaperman on *The Daily Oklahoman* I started waving the reek and stench of our state mental hospitals under the public's nostrils, I thought American know-how would make short work of the deficiencies in the system. I reckoned little with either the stifling hold of comfortable tradition or the granite power of professional intransigence."

Thus the author aptly introduces a volume jam-packed with frightening facts and ringing quotes about the nation's problem of mental illness. In the pages that follow, the worrisome theme is developed in a high-pitched

journalistic key. Occasionally the reader is provided with anecdotes from the author's extensive experiences with legislative committees and governors' conferences—experiences he has had in his influential capacity as Executive Director of the National Mental Health Committee. In conclusion, there is a very fast run-down on what he believes medical research has produced in the field of psychiatry.

It soon becomes apparent that the problem of mental illness, as Mr. Gorman sees it, is the problem of patients' occupying mental hospital beds, how they are dosed, and how soon they are sent home to be cared for otherwise. He is skeptical of psychotherapy in general and he lumps all psychological approaches with psychoanalytic doctrinarianism, for which he has an ill-concealed contempt. Preventative mental health and psychological maladaptation to a complex society are outside his range of concern.

Within his narrow definitions of mental illness, the author sees research as holding the key to progress. With this view psy-

Head Hunters

Nolan D. C. Lewis, Carney Landis, and H. E. King (Eds.)

Studies in Topectomy. New York: Grune & Stratton, 1956. Pp. viii + 248. \$6.75.

Reviewed by CLINTON C. BROWN

who is Coordinator of Neuropsychiatric Research at the Veterans Administration Hospital at Perry Point, Maryland. He believes in electronics as a research tool and in biochemistry and pharmacology as furnishing the most promising approaches to the understanding of mental

disorder, and he admires W. Horsley Gantt, under whose stimulus he worked for a number of years.

IN June 1948, a group of thirty-six investigators, representing psychiatry, psychophysiology, psychology, and social work, undertook an eleven-month full-scale investigation of the therapeutic effects of two types of topectomy operations. The first Columbia-Greystone project had just ended, leaving some general and specific questions that these investigators now attempted to answer. The primary experimental variable was that of the locus of the cortical ablation and the measures adopted were those which had most successfully demonstrated change in the preceding Columbia-Greystone project. Besides this refinement of investigation, it was hoped that the data would provide the basis for new theories concerning the function of the frontal lobes.

Eleven different approaches are reported in this volume. They range from psychiatric and psychometric evaluation to laboratory studies and Social Service investigations. Each was apparently sound in conception, adequately implemented and a few quite novel, showing promise for other applications.

As a scientific cooperative effort, this project appears to be a good example of the kind of broad, multi-disciplinary approach so urgently needed at present in the study of behavior. Nevertheless the report is disappointing. The majority of findings reported are either negative or inconclusive, an unfortunate outcome for either a doctoral dissertation or a large project. Not only do most of these studies show a failure to differentiate between the effects of the two types of topectomies (superior surface removal vs. orbital surface removal), but they also are impaired by a surprising failure to differentiate between the behavior of the operated and the control patients. Actually the operated patients lost a total of 70 grm. of frontal cortex from two blocks of tissue of 40 cc. mass. After three months of recovery, the best of the current measurement methods showed no differences in behavior at all. Still we do not know what functions are being measured by psychological tests of "organic brain damage."

This study is disappointing in another

sense. While it would be unreasonable to expect this group to propose a new and finished theory of frontal-lobe function, it is reasonable to expect more speculation on the meaning of the data. Instead, most of the discussions deal with the nuances of schizophrenic test behavior and not even the editors have supplied this necessary summary and projection of the findings. Consequently, the reader learns that topectomy is of little therapeutic value for the chronic schizophrenic and does not discover why it should have worked or why it did not work.

A RETROSPECTIVE view of the project provides insight on its defects. First, only half of the investigators reported using some or all of the control subjects available. This neglect may have been due to the extreme difficulty of working with the type of chronic, deteriorated, and uncooperative patient chosen for this 'last resort' procedure. Certainly one cannot fail to express admiration for the patience and endurance of the investigators.

Secondly, there is little evidence of true collaborative effort in the form of an interchange of ideas and data across disciplines. A cooperative research project should imply more than sharing subjects.

This is no easy book to read. Hoch's discussion of psychiatric findings, Kline's presentation of vestibular function and autokinetic phenomena as well as King's treatment of psychophysiological data are clear and direct, but much of the balance of the volume is tedious and lengthy. One report is suggestive of the kind of data-belaboring practiced by persons whose methods exceed their theory and most reports would have profited from the use of nonparametric analyses and better graphic methods.

There is much information in this book to be gleaned by other investigators. There is also this sobering after-thought: as the drums of chemotherapy beat out across the land, that we are again going to do battle with mental disease without full knowledge of enemy or armament.



Apt Aphorisms for the Aging

Ethel Sabin Smith

The Dynamics of Aging. New York: W. W. Norton, 1956. Pp. 191. \$2.95.

Reviewed by JOHN E. ANDERSON

who is Professor of Psychology at the Institute of Child Welfare of the University of Minnesota and until recently its Director, but who has also in recent years become involved in the problems of aging and was in 1955-56 President of the Division of Maturity and Old Age of the American Psychological Association.

IN these days when the word *dynamics* appears in every context from the advertisements for the latest models of automobiles to the manifestos of the latest theories of behavior, it is no surprise to find a book on the dynamics of aging. But as the author admits, the book turned out to be much more of a 'how-to' book than the system of explanatory principles expected from the title. When one looks to the text for its empirical support, references to the scientific literature, except for textbooks, are few and far between. But the literary references are many.

After criticizing Cicero for neglecting women and addressing only the educated Roman of the upper class, Dr. Smith suggests that her book will meet this deficiency; yet, after discussing the needs of older persons, the desirability of the enhancement of self, and the difficulties old people have, her prescriptions for the aging are mainly literature, art, music, and social life. She does not stress women as such and directs her essays to the highly educated.

The preface suggests that younger people who read the book may come to understand their grandparents, but I wonder if we of an older generation, who read *De Senectute* in our first year of college Latin, learned any more about aging than we learned about Latin.

One concrete suggestion of hers deserves, however, special emphasis. "If, in every educational institution which supports a graduate school, provision



Important New Books

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APPLETON-CENTURY-CROFT, INC.
35 West 32nd Street New York 1, N.Y.

were made for a residential academy for retired scholars and professionally trained men and women, prodigies of creative work and valuable research would be accomplished."

Her style is pleasant; she turns a neat phrase; her counsel is good. What appears then is the wisdom of an older person, who has lived a good life, wisdom drawn from much reading and illustrated by anecdotes from a wide personal experience. This is then a book for the cultured layman, not for the professional psychologist.

More Educational than Psychological

Henry Clay Lindgren

Educational Psychology in the Classroom. New York: John Wiley & Sons, 1956. Pp. xv + 521. \$5.00. **Instructor's Manual.** Pp. 14. \$5.00. **Workbook.** Pp. 183. \$1.95.

Reviewed by J. W. TILTON

who is Associate Professor of Educational Psychology in the Graduate School at Yale, with long years of experience as an educational psychologist and some practical years in public-school work.

IN THIS text there is an emphasis upon personal and social adjustment, mental health and human relations, as might be expected from an author who has written in these areas. Although close to four hundred sources are referred to, most contribute little to the text. The chief contributors seem to have been Davis (Allison), Dewey, Dreikurs (Rudolph), Grambs (Jean), Havighurst, Hollingshead, Lewin, Pearson (G. H. J.), Redle, Snygg and Combs, and Taba.

Heredity is not mentioned in the index. To one who has read the book this is not surprising. Heredity is of concern to those who think in terms of a teacher-centered education. The emphasis of this book is upon child-centered education. Adding knowledge, drilling for permanence, reward and punishment, and mental discipline are mentioned only as aspects of 'traditional' education,

which by implication is presented as pre-scientific education.

The *Workbook* is composed of a set of multiple-choice questions, problems and projects corresponding to each of the eighteen chapters of the text. The questions were "devised principally to test the student's ability to use the concepts and the viewpoints developed in the textbook." Scoring keys for the multiple-choice questions are supplied in the *Manual*, together with page references to the text material upon which the questions are based. At least three-quarters of the *Manual* is devoted to comment and suggestion concerning the problems and projects proposed in the *Workbook*.

"The rationale of this *Workbook* is that of helping the student to become involved in the process of learning."

"The aim of this whole process is to change the viewpoint of the student in such a way that his approach to human behavior becomes more scientific—that is—more curious, penetrating, objective, analytical, skeptical and experimental."

It is open to question whether the textbook and workbook are well designed to achieve this aim in the fullness with which it is stated. The reviewer wonders whether the course as outlined will develop a curiosity, an objectivity, a skepticism and an experimental attitude worthy of being called scientific. A writer with a message usually fails to teach skepticism. When studies are cited only as they contribute to the message of the text, a student can easily get the impression that every research is 'scientific' and convincing. As to the problems and projects proposed in the workbook, most of them require the student "to introspect and to probe into his past and current experiences" or "to explore various aspects of behavior with his friends and acquaintances." For the development of skepticism, too few require the consideration of the pros and cons and none seem to be designed to reveal the hazards involved in the interpretation of data.

THERE is no other respect in which the reviewer questions the achievement of the author's aims. Nevertheless, as seen by the reviewer, it is a fault to use and therefore regrettable to write such

elementary textbooks for courses in educational psychology. There is too much duplication between courses in education and courses in educational psychology. The more elementary aspects of educational psychology appear gradually to become absorbed into education courses. If so and to the extent that it is so, the course in educational psychology should change accordingly. The elementary aspects which are otherwise taken care of (if indeed they need teaching) should be omitted and the course in educational psychology correspondingly stepped up as a psychological offering. This reviewer believes that even though the multiple-choice questions in the *Workbook* are keyed to *Educational Psychology in the Classroom*, teachers-college seniors could answer many of them without having had a course in educational psychology.

AT ANY RATE the text is less suitable for graduate than for undergraduate use. The two very different graduate needs for educational psychology are in classes of employed teachers and in classes of liberal arts graduates preparing for teaching. *Educational Psychology in the Classroom* is too elementary education-wise for use in the former situation and too superficial psychology-wise for the latter group.

At the undergraduate level, the text is more suitable in a program designed for the preparation of elementary or junior-high-school teachers than in one in which senior-high-school teachers are being prepared. This is the case both because of the emphasis in the illustrative material used and because of the child-centered philosophy which permeates the treatment.

On the whole, this work should be very well received. The text is practical and generously illustrated, and there is an abundance of help for the instructor in the *Workbook* and *Manual*. The importance of group membership in relation to adjustment and personality development is ably developed. Of the four hundred (more or less) references, nearly half have been published within the last five or six years. And finally, and by no means least, the text and workbook may be depended upon to exert a thoroughly wholesome influence upon education.

FILMS

By ADOLPH MANOIL, Editor

Film Research (cont.)

MILD ANXIETY AS AN INCENTIVE

Sarah G. Allison and Philip Ash

Relationship of Anxiety to

Learning from Films. Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-24), 1951. Pp. iv + 15.

The assumption that anxiety, in relation to a learning task, is a motivational factor affecting learning is tested. A mild anxiety state was created through the instruction given the students before showing of films.

There were three different instructions with three equalized groups: (1) an anxiety-relieving instruction, (2) a neutral instruction, and (3) an anxiety-producing instruction. The results show an increased learning in the direction of increased amounts of anxiety.

The results are based on the use of two films, *Your Voice* (Encyclopedia Britannica, 10 min., 1949) and *Nervous System* (Knowledge Builders, 10 min., 1948) with 480 college students.

The results indicate that learning from films is positively correlated with the significance the outcome of the film is to have on the scholastic standing of the student.

USEFULNESS AS A LEARNING INCENTIVE

Malcolm McNiven

The Effects on Learning of the Perceived Usefulness of the Material to be Learned. Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-54), 1955. Pp. iv + 33.

This report is based on a dissertation entitled *Human Learning and Attitudes towards Learning as a Function of Perceived Goal Distance*, Pennsylvania State Univer., 1955.

The problem of motivation in learning

is studied in terms of perceived usefulness of the material presented through films and of interest in it. Information tests, a ranking and rating form, and an attitude scale were used for measurement.

The results show that the amount of learning from the film will be greater as the subject perceives himself nearer to his own use of the material presented. A scale of perceived goal distance (perceived usefulness) was also constructed.

The report gives the forms used (ranking and rating form), the attitude scale used, a scale modified for use with a university course.

TRANSFER OF LEARNING

Sol M. Roshal and the Staff of the Instructional Film Research Program

Effects of Learner Representation in Film-Mediated Perceptual-Motor Learning. Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-5), 1949. Pp. viii + 34 + 4. \$1.00.

The use of instructional films for teaching perceptual-motor skills is built on the assumption of transfer of learning from symbols and pictorial material to actual performance. This problem of transfer is investigated on the hypothesis that "the effectiveness of a training film designed to teach a skill is increased as the film approaches absolute realism in presenting the task or skill."

The research was conducted through the use of eight experimental versions of a film on tying of three knots in which four variables (camera angles, motion, hands of the demonstrator, and participation of the viewer in the action portrayed) were controlled.

The results show that the effectiveness of a film teaching a skill will increase if the task is portrayed from the viewing angle of the learner as he will perform the task. Motions are more effective than successive stills.

Need for further research is indicated, especially with reference to the degree of participation of the viewer in the task presented.

Thomas Vris

A Comparison of Principles Training and Specific Training Using Several Types of Training Devices. Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-102), 1955. Pp. iv + 28.

This research deals with the comparison between teaching principles and teaching specific operations with reference to learning effectiveness. Comparisons were made among various types of training devices: (1) actual equipment, (2) three-dimensional modification of the equipment, and (3) a two-dimensional diagram.

The results show that a three-dimensional aid and the actual equipment were equally effective and superior to a two-dimensional aid. If the task is to be performed on other related equipment, teaching of principles is better than teaching of specifics. When two-dimensional aids are used, both principles training and specific training are effective. The degree in which training in principles is more effective depends on the task and training equipment.

This research could be supplemented with, J. A. Murnin, A. W. VanderMeer and T. Vris, *Comparison of Training Media: Trainee Drawing of Schematic Electrical Systems*, Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-101), 1954, pp. iv + 30, and Joseph A. Murnin, *Comparison of Training Media: Transfer of Principles Involved in a Manipulative Skill; Operation of the Aircraft Load Adjuster Slide Rule*, *ibid.*, No. 269-7-103, 1955, Pp. iv + 36.



A new movement is not a stampede to some new object, but a stampede away from some old person.

—FRANK MOORE COLBY



TEACHING WITH FILMS VS. TRADITIONAL TEACHING

Abram W. VanderMeer

Relative Effectiveness of Instruction by: Films Exclusively, Films Plus Study Guides, and Standard Lecture Methods.

Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-13), 1950. Pp. ii + 51. \$50.

The main purpose of this research was to find out whether and to what extent instructional films alone could be used for teaching factual information.

Three comparable groups of ninth-grade high school pupils were taught a course in general science during one semester. One group was shown a series of 44 films, the second group was shown these same films but with use of study guides before and after the films, the third group was taught the same subject matter by the traditional method without any films.

The results show small and generally not significant intermethod differences.

Although films plus study guides gave slightly better results, the differences were so small that "for all practical purposes . . . the three methods were of almost equal effectiveness."

VALIDITY OF TESTS ON LEARNING FROM FILMS

Edwin F. Lefkowitz

The Validity of Pictorial Tests and Their Interaction with Audio - Visual Teaching Methods.

Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-49), 1955. Pp. iv + 18.

The study presented in this report is based on a dissertation entitled, *The Effect of Pictorial Stimuli Similarity in Teaching and Testing*, Pennsylvania State Univer., 1955.

The problem concerns the validity of tests used for the measurement of the effectiveness of teaching through audio-visual methods.

The interaction between teaching methods and testing methods is defined in terms of 'iconicity,' that is to say, the

degree of similarity of pictorial material in the teaching methods and in the test.

The task was the identification of nomenclature and function of the five-inch, thirty-eight caliber projectile hoist, Mark IV. The subject was taught with the use of a recorded lecture supplemented by transparent slides (in one lecture black and white photographs, in the other outline drawings).

The only difference between the teaching methods was the degree of iconicity of the slides.

The testing was made (1) by the use of actual equipment test (criterion measure) (2) by the use of photograph slides, and (3) by the use of outline drawing slides.

The results show that test scores are higher when the pictorial test material resembles the pictorial material used in teaching, and that the validity of the test will not increase beyond a certain limit, however great the similarity between materials and picture.

The evaluation of audio-visual teaching methods should be done through use of actual equipment in the tests when possible. Next best is use of pictorial tests similar to the teaching aid used in the instruction.

SUPERIOR FILM LEARNERS

Robert Radlow

The Relation of Some Measures of Ability to Measures of Learning from Sound Motion Pictures.

Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-58), 1955. Pp. iv + 14.

The effectiveness of instructional films for learning is related to certain mental characteristics of the audience.

This research was aimed especially at the identification of superior film learners. Relationships between gains on information tests (on the films used) and certain abilities were also established.

The tests used were selected from Guilford-Zimmerman Aptitude Survey and were: verbal comprehension, general reasoning, perceptual speed, spatial orientation and spatial visualization.

The results indicate that verbal comprehension, general reasoning and spatial orientation should provide a minimal battery for predicting learning from films.

OPTIC EFFECTS AND FILM LITERACY

John Mercer

The Relationship of Optical Effects and Film Literacy to Learning from Instructional Films.

Port Washington, N. Y.: Special Devices Center (Tech. Rep. No. 269-7-34), 1952. Pp. iv + 19. \$50.

This research studies how films of optical effects such as 'fades', 'dissolves' and 'wipes', effect learning. The nature of 'film literacy' and its relation to learning was also investigated.

The results show that optical effects do not help factual learning and that the audience does not attach specific meaning to optical effects. A questionnaire returned by 48 producers and the analysis of 52 instructional films show no consistency or clear rationale in the use of optical effects.

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(Revised 1 Jan., 1956.) Port Washington, N. Y.: Dept. of the Navy, Office of Naval Research, Special Devices Center (Navexos P-1491), 1956. Pp. 18.

Recherches sur les problèmes du cinéma. *Rev. Internat. de Filmologie*, 1952, 3, 179-277.

The children's film library and special children's programs. New York: National Children's Film Library, n.d. Pp. 38.

Films

OLD AGE

Still Going Places! Active Management of Disability in the Aged

George C. Stoney in collaboration with Frederic D. Zeman and Leo Dobrin. David S. Ruhe and Leo L. Leveridge, medical teaching film consultants. 16-mm., black and white, sound, 40 min., 1955. Available through the Film Library, Pfizer Laboratories, 630 Flushing Ave. Brooklyn 6, N. Y.

Old age presents various difficulties of adjustment, among which physical disabilities appear as the most frequent and also as requiring the greatest amount of care. Thus old age constitutes a medical as well as a psychological and social problem.

This film presents the problem of physical handicaps in old age with emphasis on the value and effectiveness of personal effort in overcoming physical disabilities.

The general medical practice of recommending that patients exercise as soon as possible after a surgical operation or the setting of bones is extended to the treatment of similar conditions in older persons.

The practical aspects of this approach is illustrated through the presentation of the Home for Aged and Infirm Hebrews of New York. Such cases as an 88-year old woman who begins to walk 12 weeks after a broken hip, an 84-year old double amputee who acquires the ability to walk with two artificial legs, a 74-year old stroke victim practicing the use of the bathroom, and other similar cases illustrate convincingly the value of active therapy. The effectiveness of this therapy is clearly related to the respect for the patient shown by the institution's personnel, the degree of sympathetic encouragement, and the appeal to personal pride in taking care of one's own needs.

The problem of the rehabilitation of elderly people with physical handicaps appears rather as a psychological problem of motivation, confidence in one's own ability and adequate use of a desire for independence.

The film has good photography and narration and could be profitably used as a demonstration of active physical therapy with older people. Besides its usefulness in relation to the training of the specialized personnel of institutions for the aged, the film is also a good means of education for lay audiences and especially for those with precon-



AT 88 A WOMAN RELEARNED TO WALK WITH THE HELP OF PARALLEL BARS

(From the film *Still Going Places! Active Management of Disability in the Aged*. Pfizer Laboratories, Brooklyn, N. Y.)

ceived ideas about the limited physical capacities of the aged.

The psychological aspects of the desire to overcome physical disability and its effect on the behavior of the individual, on the one hand, and the relevance of social factors including the attitude of institution's personnel, on the other, should make the film also a good demonstrational tool for the study of general human behavior within physical and environmental limitations.

LIPREADING

Visual Hearing Films

Marie K. Mason, The Speech and Hearing Clinic, Department of Speech, The Ohio State University. Thirty 16-mm. motion picture films, silent, color, approximately 8 min. each, n.d. Produced by The Department of Photography, The Ohio State University, Columbus, Ohio. Available through Department of Photography, Brown Hall, The Ohio State University, Columbus 10, Ohio. Complete series, 30 reels, \$1,050.00; rental \$5.00 per film.

Lipreading as an essential training for the deaf presents characteristic teaching problems that require a systematic approach and recognition of basic principles of learning. The Mary K. Mason visual hearing films present a most comprehensive and systematic approach to lip reading. Visual hearing is defined as "the comprehension of spoken thought through the interpretation of visual stimuli when response to auditory stimuli is inadequate or entirely lacking."

The thirty films in this series represent a course in visual hearing. Each film is a complete instructional unit.

The series is organized in successively more complex units. Each unit presents the assigned topic through title cards with printed sentences or words that are to be read by the viewer before they are uttered by the speaker in the film. Then the speaker voices the remaining sentences of the unit without any other visual clues. Finally there are questions that the student is expected to understand and answer on the basis of the speaker's lip movements and facial expression only.

The phonetic content of the films, the script content, and the objective of each instructional unit are presented in a special guide. (Marie K. Mason, *Visual*

Hearing Films. A complete sequence of instructional units for use in teaching visual comprehension of speech. Columbus, Ohio: The Speech and Hearing Clinic of the Department of Speech, The Ohio State University, n.d., pp.9). The users of the films could also refer to Marie K. Mason, *Visual Hearing*, Ohio State University, Speech and Hearing Clinic, n.d. (mimeographed) Pp.33, and, Marigen Mulligan, *Variables in The Perception of Visual Speech from Motion Pictures*, Master's thesis, Department of Speech, Ohio State University, 1955. Special mimeographed sheets on various film assignments are also available.

AUTOMATION

The Search: Automation

Massachusetts Institute of Technology. CBS Television, producer. 16-mm. motion picture film, black and white, sound, 27 min., 1955. Available through Young America Films, 18 East 41st St., New York 17, N. Y., and other distributors. \$125.00, rental \$5.00.

Basic principles and technical achievements in the field of automation are interestingly presented.

The film shows the electronic calculating machine of MIT, the electronic "Moth" whose implications are explained by Norbert Wiener, the electronic 'mouse' that Claude Shannon runs twice through a metallic maze, an automatic milling machine, and a Ford engine plant with almost complete automation.

The film is significant in its implications and could be usefully used in connection with Norbert Wiener, *The Human Use of Human Beings—Cybernetics and Society*.

SOCIAL PSYCHOLOGY

The Search: Race Relations

Fisk University, CBS Television, producer. 16-mm. motion picture film, black and white, sound, 27 min., 1955. Available through Young America Films, 18 East 41st St., New York 17, N. Y., and other distributors. \$125.00, rental \$5.00.

The community self-survey techniques as developed by Fisk University Race Relations Department and applied in Baltimore, Md., are comprehensively presented.

The film shows various approaches to the improvement of human relations in a

large American community in which race, religious and social differences could create tenseness and characteristic problems of social adjustment.

Personal interviews, telephone 'questionnaires' and the statistical analysis of data are also illustrated.

Problems such as discrimination in employment and housing or school desegregation are objectively analyzed and solutions worked out through the enlightened cooperation of all concerned.

The film presents a good demonstration of actual work on race relations within a large community. The film emphasizes the scientific approach, and as such it should prove useful with classes in social psychology as well as with lay audiences.

EDUCATIONAL PSYCHOLOGY

How to Succeed in School

Young America Films. 16-mm. motion picture film, black and white, sound, 10 min., 1955. Available through Young America Films, Inc., 18 East 41st Street, New York 17, N. Y., \$50.00.

Basic principles and attitudes that make for success in school are clearly illustrated at the level of the high-school student, through a comparison between the operation of a printing plant and the 'business' of going to school.

The film illustrates the importance of a good schedule, flexibility of methods of work, proper use of learning tools, and

a wholesome attitude as to scholastic obligations and social relations.

The value of a specific aim, appropriate motivation, alertness, and industriousness are emphasized.

VERBAL COMMUNICATION

Why Study Speech

E. C. Buehler, University of Kansas. 16-mm. motion picture film, black and white, sound, 12 min., 1954. Available through Young America Films, 18 East 41st St., New York 17, N. Y., and other distributors.

The value of speech as a means of communication that promotes individual social adjustment and human relations is presented at the level of the high-school student.

Speech guidance has a definite function in any educational program and should constitute one of the main aspects of high-school training.

The film *Why Study Speech* emphasizes the importance of acquiring good speech habits. Characteristic situations, in which good speech is an asset to individual growth as a member of society, are clearly presented. Speech is useful in the home as a means of conversation, in school as an asset for election to class office, in industry for getting and holding a job, and in community life for the practice of good citizenship. The film illustrates these aspects of speech practice through the presentation of a high-school student in various situations requiring appropriate speech behavior.

ON THE OTHER HAND...

14 POINTS FOR CP

Prompted by CP's June editorial, I venture to make the following comments and suggestions. Many of them are not originally mine; I have merely tried to summarize those with which I find myself in agreement and hence to lend my support to their adoption. I regret that these comments appear for the most part to be negative, for they are intended to be constructive—at least, as far as my own preferences go. Am I too much in the minority?

1. Omit the editorial headings above each

review, not for fear of editorial bias, but rather as a means of saving space, a factor which is also involved in items 2, 3, 4, 6, 9, and 11.

2. Compress the title, author, and publisher into a smaller area by running them together with the same size type, but with bold face for the book title if emphasis is desired. If items 9 and 10 below were adopted, this heading would be spread across a two-column layout.

3. Append the reviewer's name and affiliation to the end of the review in smaller type

4. Omit the aphorisms and owls alighting on the moon, etc. In general, I prefer less empty space between paragraphs and reviews. I realize that left-over empty space is a difficult problem for the printer, but may there not be a more utilitarian solution?

5. Adopt a deeper cover color; the present color lacks sufficient saturation.

6. Do not continue the table of contents on the inside front cover; get it *all* on the outside! This makes for convenience and efficiency as any library researcher knows.

7. Use heavier cover paper to withstand frequent use. [This change *CP* will make.]

8. Reduce the over-all size to approximately 10 x 6½ inches; the present issues are too thin and flimsy. Reducing the dimensions would result in a more 'handy' size and would also permit each issue to stand on its own edge in a bookcase without flopping over.

9. Use a 2-column spread instead of the present 3-column format. This suggestion and the preceding one must be considered simultaneously.

10. Use a less slick type of paper because light reflection is very annoying. I understand that cost is not a factor in the choice of paper.

11. Omit all pictures. I dislike making this suggestion since I enjoy the informal snapshots; I dislike, however, having to pay for them.

12. Restrict informality and *joie de vivre* to "CP Speaks," but here let it shine through with all the customary brilliance for which the Editor is well known.

13. The saving of space, if items 1, 2, 3, 4, 6, 9, and 11 were adopted, would permit a slightly larger type size.

14. Lastly, I would recommend that *Psychological Abstracts* no longer publish

any book abstracts at all, and that the equivalent space and budget be allotted to *CP*.

F. L. ERLANDSON
University of Minnesota

NACHRUF AUS MACH

Die reizende und sympathische Besprechung meines Buches, die eben in Ihrer Zeitschrift erschienen ist, habe ich mit grosser Freude gelesen. Wollen Sie so freundlich sein und dem Verfasser Herrn Dr. Mises, der mir leider nicht persönlich bekannt ist, meinen herzlichen Dank übermitteln?

E. MACH
Ithaca, New York
bei E. B. TITCHENER

(This to CP on a U.S. postal card postmarked Ithaca.)

BOOKS RECEIVED

BELKNAP, IVAN. *Human problems of a state mental hospital*. New York: Blakiston Division, McGraw-Hill, 1956. Pp. xvi + 277. \$5.50.

BERGLER, EDMUND. *Homosexuality: disease or way of life?* New York: Hill and Wang, 1956. Pp. 302. \$5.00.

BOWMAN, P. H., R. F. DEHAAN, J. K. KOUGH, & G. P. LIDDLE. *Mobilizing community resources for youth*. (Supplementary Educational Monographs, No. 85.) Chicago: University of Chicago Press, 1956. Pp. viii + 138. \$2.50.

CARMICHAEL, LEONARD. *The making of modern mind*. (Rockwell Lectures, Rice Institute, Houston, Texas.) Houston: Elsevier Press, 1956. Pp. viii + 88.

CHERRY, COLIN (Ed.). *Information theory: third London symposium, 1955*. New York: Academic Press, 1956. Pp. xii + 401. \$11.50

DOBZHANSKY, THEODOSIUS. *The biological basis of human freedom*. New York: Columbia University Press, 1956. Pp. vi + 139. \$2.95.

ESSLER, RUTH S., ANNA FREUD, HEINZ HARTMANN, & ERNST KRIS (Eds.). *The psychoanalytic study of the child*. Vol. XI. New York: International Universities Press, 1956. Pp. 470. \$8.50.

GOUGENHEIM, G., R. MICHEA, P. RIVENC, & A. SAUVAGEOT. *L'élaboration du français élémentaire: étude sur l'établissement d'un vocabulaire et d'un grammaire de base*. Paris: Didier, 1956. Pp. 256.

HARING, D. G. (Ed.). *Personal character and cultural milieu*. (3rd ed.) Syracuse, N. Y.: Syracuse University Press, 1956. Pp. xi + 834. \$7.50.

JAQUES, ELLIOTT. *Measurement of responsibility: a study of work, payment, and individual capacity*. Cambridge, Mass.: Harvard University Press, 1956. Pp. xiii + 143. \$3.00.

KLEIN, MELANIE, PAULA HEIMANN, & ROGER MONEY-KYRLE (Eds.). *New directions in psychoanalysis: the significance of infant conflict in the pattern of adult behaviour*. New York: Basic Books, 1956. Pp. xiii + 534. \$7.50.

KNORR, KLAUS. *The war potential of nations*. Princeton, N. J.: Princeton University Press, 1956. Pp. viii + 310. \$5.00.

MARZI, ALBERTO, & MARIO VALERI. *Psicologia ed educazione: nel pensiero dei contemporanei*. Bologna: Giuseppe Malipiero, 1956. Pp. 317.

McKEACHIE, WILBERT, with the collaboration of GREGORY KIMBLE. *Teaching tips: a guide-book for the beginning college teacher*. (3rd ed.) Ann Arbor, Mich.: George Wahr, 1956. Pp. 124.

MULLER, THERESA G. *The foundations of human behavior: dynamic psychology in nursing*. New York: G. P. Putnam's Sons, 1956. Pp. 254. \$4.50.

NEUMANN, ERICH. *Amor and Psyche: the psychic development of the feminine*. (Trans. from the German by Ralph Manheim; Bollingen Series LIV.) New York: Pantheon Books for the Bollingen Foundation, 1956. Pp. 181. \$3.00.

NOVECK, SIMON (Ed.). *Judaism and psychiatry: two approaches to the personal*

problems and needs of modern man. New York: Basic Books, 1956. Pp. xi + 197. \$3.95.

RAKER, J. W., A. F. C. WALLACE, & JEANNETTE F. RAYNER, with the collaboration of A. W. ECKERT. *Emergency medical care in disasters: a summary of recorded experience*. (Disaster Study No. 6; Publication No. 457.) Washington, D. C.: Committee on Disaster Studies, National Academy of Sciences-National Research Council, 1956. Pp. v + 75. \$1.50.

RICHMOND, W. K. *Education in the U. S. A.: a comparative study*. New York: Philosophical Library, 1956. Pp. 227. \$4.50.

SCHNEIDER, D. E. *The image of the heart and the principle of synergy in the human mind*. New York: International Universities Press, 1956. Pp. xi + 267. \$6.00.

SELVE, HANS. *The stress of life*. New York: McGraw-Hill, 1956. Pp. xvi + 324. \$5.95.

SPARER, P. J. (Ed.). *Personality, stress and tuberculosis*. New York: International Universities Press, 1956. Pp. xviii + 629. \$12.50.

STAMPP, K. M. *The peculiar institution: slavery in the ante-bellum south*. New York: Alfred A. Knopf, 1956. Pp. xi + 436 + xiii. \$5.75.

VIRTUE, MAXINE BOORD. *Family cases in court*. Durham, N. C.: Duke University Press, 1956. Pp. xxvi + 290. \$4.00.

WERNICK, ROBERT. *They've got your number*. New York: W. W. Norton, 1956. Pp. 124. \$2.95.

YOUNG, KIMBALL. *Social psychology*. (3rd ed.) New York: Appleton-Century-Crofts, 1956. Pp. x + 632. \$5.75.

New RONALD Books . . . Spring, 1957

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TIMOTHY LEARY, Ph.D, Kaiser Foundation Hospital, California

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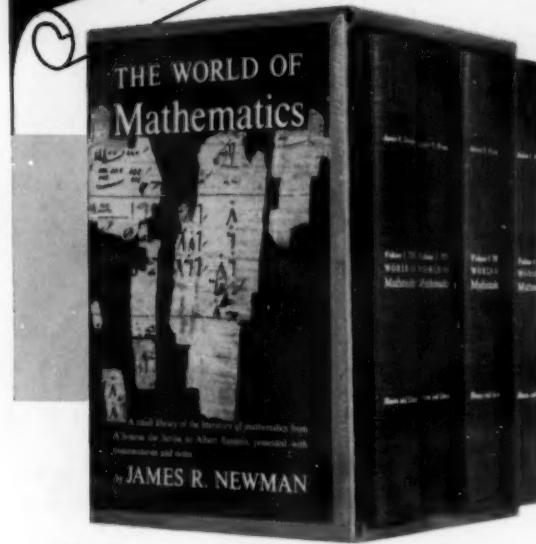
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